Your grade: 100%

Your latest: **100%** • Your highest: **100%** • To pass you need at least 75%. We keep your highest score.

[Next item →]

⌄ **Instructions**

In this assessment, you will prepare your images for classification and extract saturation-based features.

These features will be used to train a classification model in the next section, so it is important that you take this quiz as many times as necessary to ensure that your data set is correctly prepared and ready for classification.

Prepare Data

1 / 1 point

1. Organize the Roadside Ground Cover images (which can be found in the "MathWorks Images" subfolder of the "Data" folder in the course files download) into an image datastore. Use the subfolder names "Snow" and "No Snow" as the image labels.

   Then split the datastore into training and testing subsets while keeping **85%** of the images in the training datastore.

   How many images are labeled as "Snow" in the **training** datastore?

   > 85

   ⊘ **Correct**

> **Your Next Task**

2. What is the **mean saturation** for the "No Snow" labeled image "RoadsideA_1.jpg"?   **1 / 1 point**

   > 0.3806

   ⊘ **Correct**
   Compare this to a "Snow" labeled image "RoadsideB_1.jpg", with a mean saturation value of 0.1259.

3. What is the **standard deviation of the saturation** for the "No Snow" labeled image "RoadsideA_1.jpg"?   **1 / 1 point**

   > 0.2302

   ⊘ **Correct**
   Compare this to a "Snow" labeled image "RoadsideB_1.jpg", with a standard deviation of saturation value of 0.1028.

4. Create a table for the training dataset that contains a row for each image and a column for its: **1 / 1 point**

   - Filename
   - Label (either "Snow" or "No Snow")
   - Mean saturation
   - Standard deviation of the saturation

   Hint: you can copy and modify portions of the `preparingYourImagesForClassification.mlx` and `extractConcreteFeatures.m` scripts to use as a template.

   Once completed, make a grouped scatter plot of each image's mean saturation on the x-axis and the standard deviation of the saturation on the y-axis. What is the result?
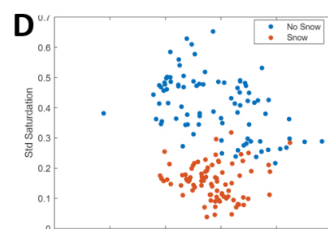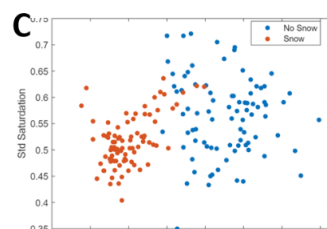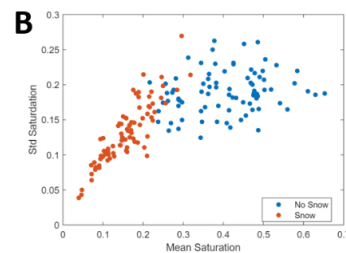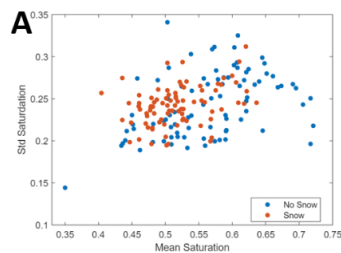
| 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 |
Mean Saturation

| 0.1 | 0.15 | 0.2 | 0.25 | 0.3 | 0.35 |
Mean Saturation

Your own plot may differ slightly depending on the randomization of splitting the training and testing datasets.

○ A

◉ B

○ C

○ D

✓ **Correct**
```
gscatter(groundCoverTable.saturationAvg,groundCoverTable.saturationSTD,groundCoverTable.label);
```

| 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 |
Mean Saturation

| 0.1 | 0.15 | 0.2 | 0.25 | 0.3 | 0.35 |
Mean Saturation

Your own plot may differ slightly depending on the randomization of splitting the training and testing datasets.

○ A

◉ B

○ C

✓ **Correct**
```
gscatter(groundCoverTable.saturationAvg,groundCoverTable.saturationSTD,groundCoverTable.label);
```